

KINGSTON GENERAL HOSPITAL

IMAGING SERVICES DEPARTMENT MANUAL

Subject: Radiation Safety Procedures

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GENERAL

1. The Department Head, Radiology is the Radiation Protection Officer (RPO). [HARP 9(1), a].
2. Persons who operate x-ray machines for the irradiation of patients must be qualified medical practitioners or radiological technologists under the Radiological Technicians Act [HARP 5(2), 1 and 5(2),7]
3. All personnel who, in the course of their work, must be in x-ray rooms will be issued a personal dosimeter supplied by the Radiation Protection Bureau (Health Canada). The badge must be worn under the protective lead apron at waist level. [Safety Code 35, 2.1,7]
4. The Charge Technologist will administer the issuing, distribution and collection of personal dosimeters. Records will be kept for a minimum of three years.
5. Personal dosimeters will be collected quarterly and sent for readings.
6. Copies of the readings will be given to the RPO, Medical Physicist and posted in appropriate areas of the department and hospital.
7. The Medical Physicist and Charge Technologist will review the personal dosimeter readings. Any abnormal readings will be reported to the RPO, Joint Health and Safety Committee and to the Director of the Ontario Ministry of Labour, Occupational Health and Safety (X-ray Safety), by phone or other direct means, and a written report must be sent to the Director within 48 hours. [Occupational Health and Safety Act, Article 14]
8. All x-ray equipment shall be tested semi-annually for compliance with the HARP Act. Test records must be maintained for a minimum of seven years.
9. Any problems with x-ray equipment discovered by a technologist or a radiologist must be reported to the Charge Technologist immediately upon discovery.
10. All doors to x-ray rooms shall be closed during x-ray exposures or fluoroscopy.
11. All fluoroscopy rooms shall have warning lights mounted outside the room and activated by fluoroscopy or exposure.

REDUCING DOSE TO THE OPERATOR

1. All personnel who are required to work in radiation areas such as fluoroscopy suites during examinations are required to wear lead aprons, thyroid collars or other protective devices as required. Only essential personnel should be in x-ray rooms when the exposure is carried out [Safety Code 35]
2. When there is a need to support a patient, holding devices should be used. If people are required to assist in holding a patient, they must be equipped with protective devices (aprons, thyroid collars, gloves etc.). If possible a nurse or family member should hold the patient in these cases. [Safety Code 35]
3. The recommendations in Safety Code 35 should be followed.

REDUCING DOSE TO PATIENTS

1. The operator must not perform any examination which has not been prescribed by the physician responsible for the patient [Safety Code 35]
2. The exposure should be kept to the lowest practicable value while maintaining the required diagnostic information, [Safety Code 35]
3. The x-ray beam must be collimated at least to the area of the image receptor, and preferably, further, to the area of diagnostic interest. [Safety Code 35].
4. Particular care must be taken to determine whether women of childbearing age are pregnant. In cases where a pregnant patient must be radiologically examined, special care must be taken to use low dose techniques, fast screen/films, tight collimation and maximum use of shielding. [Safety Code 35]
5. Shielding should be used, where appropriate and practical, to limit the volume of tissue irradiated. It is particularly important, if possible, to shield the gonads, blood forming organs and thyroids of children. [Safety Code 35]

References

1. Safety Code 35, Radiation Protection in Radiology – Large Facilities, Health Canada (2008)
2. Healing Arts Radiation Protection Act, Revised Statutes of Ontario (1980) There is a subsequent revision pending. Upon finalization this document will be amended.
3. Occupational Health and Safety Act, Regulation Respecting X-Ray Safety (1986)

Authorizing Signature:

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